Living Atlas Platform

Sponsor: CEREO

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Abstract

- Everybody knows that we are facing environmental challenges
- There is a lot of research out there to help us solve this challenge
- We need a central hub for environmental research
- A visual and interactive interface where we can upload, download, and view the research
- All data uploaded is linked with longitude and latitude, which can be displayed on the live map
- Full-stack web application comprising three key layers: Frontend, Backend, and Database

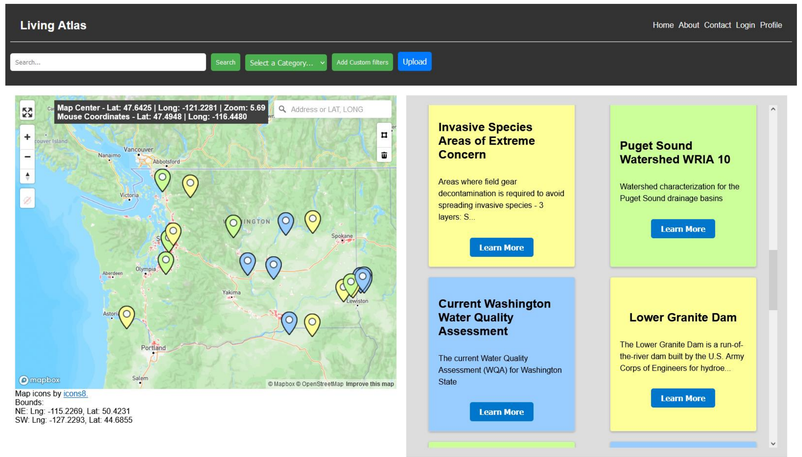
Solution

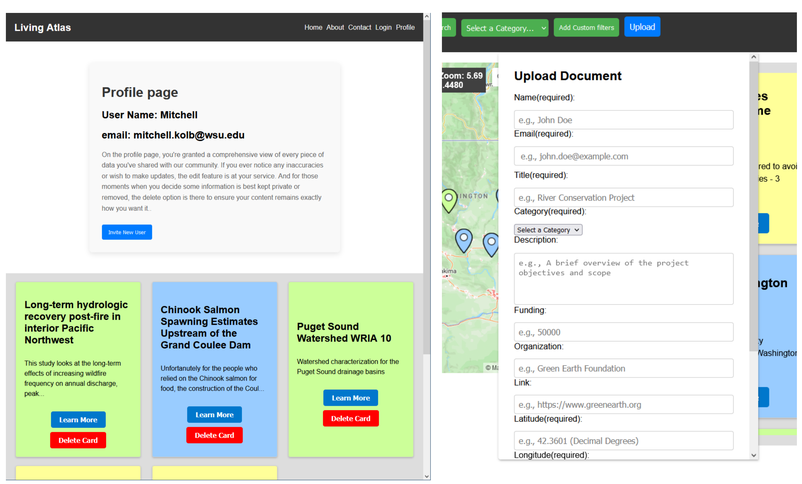
- A web application featuring a map to the left and cards to the right representing points on the map that can be filtered.
- The app was developed in 3 parts: React for the frontend (the UI), FastAPI for the backend (which connects the front to the database), and ElephantSQL for the database (which stores all the information for the app)

React FastAPI PostgreSQL

Features/Functionality

- While anyone can access the map, cards, and all the filtering options only registered users can upload information to the website.
- When a new card is uploaded, information such as the longitude and latitude is entered, along with a category for the data, and tags to help filter the cards for users looking for specific information.
- Registered users can also invite new users from their profile page. This will help keep the app restricted to trusted users.





Final Status

- ✓ Completed core set of features
- ✓ Deployed all 3 sections of the website (frontend, backend, database)
- ✓ Approved by clients

Future Work

- Admin account moderation tools
- Ability to upload only files
- Backend deployment service which has a 100% uptime
- More efficient/effective CI/CD
- Scalability
- Implementing a custom domain

Glossary

- CEREO: Our Client is the Center for Environmental Research, Education, and Outreach

Acknowledgements

Dr. Jan Boll, Dr. Julie Padowski, Dr. Hannah Haemmerli, and Mentor Professor Subu